

T&E Update

Testing • Engineering • Consulting



Issue 8

Deregulation Activities Promise More Options for Manufacturers

TCB Activities Pick Up Steam

As a part of satisfying the EU-US Mutual Recognition Agreement (MRA), the FCC adopted ET Docket 98-68 on December 17, 1998. This docket permits domestic and foreign entities, acting as Telecommunications Certification Bodies (TCBs), to approve equipment subject to Certification (e.g., transmitters, scanning receivers and telephone terminal equipment). This scheme was created to (somewhat) mimic the concept of Notified Bodies in the EU, with the intended effect of allowing options for US and EU manufacturers to test and certify equipment once for both markets. When finally implemented the FCC will be, in a sense, out of the Certification business (with continued oversight and enforcement activities)

Under the program, TCBs will review applications and electronically send compliance information to the FCC. The FCC issue will send the necessary information to the TCB, which will issue the Grant. This process will alleviate the lead time associated with sending the application to the Commission and should result in faster time-to-market for new products.

The FCC has released draft criteria for TCBs. The FCC will approve TCBs in the following general categories:

1. Low Power Devices & Part 15 devices
2. Licensed Transmitters
3. Part 68 devices (telecommunications)

The latest summary timeline for implementing the TCB criteria is shown below:

- | | |
|-------------|--|
| 7 May | Last date for comments on TCB Criteria |
| 4 June | Publish TCB Criteria (FCC Public Notice and Federal Register Notice) |
| 4 June | Submissions for ISO/IEC Guide 25 accreditation to FCC Rules as shown in the TCB Criteria |
| 6 July | NIST accepts TCB applications for accreditation |
| 20 July | Training for TCB (ISO/IEC Guide 65) assessors |
| 1 September | Training of TCBs starts |
| 1 October | Assessment of TCBs begins |
| 15 December | NIST TCB designation announced |
| 4 January | TCBs become fully operational |

Candidate TCBs will have to be accredited to ISO Guide 65, which covers bodies that certify products.

R&TTE Directive Adopted in Europe

However, the Europeans trumped this new program with the adoption of the Radio and Telecommunications Terminal Equipment Directive (R&TTE). At the April 28 EU/US Workshop in Washington, DC this was dubbed "a very light conformity assessment regime" allowing manufacturers Self-Declaration for many types of products.

This represents a major departure from historical requirements that mandated testing by approved laboratories, a heavy Notified Body element, extensive costs and relatively long delays. The shift in regulations relies on manufacturer's self-declaration and hence, increased liability on the part of the manufacturer. The benefits will be decreased time-to-market and lower costs. Another positive element of the Directive is that the European market will be more accessible to small and medium-sized communications companies that were priced out of the market because of the costly and cumbersome certification process.

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Germans Enforce CE Regulations

We are often asked "Who enforces the CE Marking?" In Germany, it is the Regulatory Authority for Telecommunications and Posts "RegTP". The RegTP has set up an elaborate system of sampling products on the German Market. Forty thousand inspections were carried out in 1998; this represents 0.02% of the units in circulation on the German market. The German effort focused on the following elements:

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One-stop Shop for EMI/EMC/TEMPEST Solutions

WLL now offers an extensive range of TEMPEST design and qualification support capabilities to meet manufacturers' TEMPEST requirements. Design guidance, requirements analysis, test planning, qualification testing, test reporting, configuration management and training are included in these new offerings. The WLL staff has over 45 years of combined TEMPEST compliance experience with Certified TEMPEST Professionals on-site who can assist in all aspects of TEMPEST design, qualification and manufacturing for continued compliance. For more information on these new services contact Steve Ferguson at 301/417-0220.

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New Electronic Waste Directive

Conformity requirements in the European Union (EU) will be changing for information technology (IT) manufacturers. The new electronic waste directive, 98/101/EC amends 91/157/EEC, the previous directive, which covers batteries and accumulators. 98/101/EC will also include electrical and electronic products and appliances that are part of the product's design.

Many products will now be affected by this directive including IT and telecommunications equipment, household appliances, medical equipment systems, and monitoring and control instruments. The directive will also encompass strict labeling and recycling provisions with which these manufacturers will have to comply.

Concerns about disposal and recycling of accumulators and batteries which can

contain hazardous materials including lead, mercury and cadmium have fueled the EU Commission's actions on this new directive. After January 1, 2004, manufacturers will not be able to use those elements in any products. And until that time, 98/101/EC requires that products containing these materials be labeled in accordance with the directive and to establish "take-back" programs for product recycling. More obstacles in the directive include reporting provisions where manufacturers have to identify weight and quantity of hazardous waste materials in the products that are sold in EU member states.

EU member states now have until January 1, 2000 to publish national regulations implementing 98/101/EC's tougher provisions. ■

German CE Enforcement

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1. Inspection of compliance w/provisions of CE Marking
2. Plausibility of DoC and
3. Measurements

An initial inspection is performed to determine if the CE Marking is present. Additional review of the plausibility of the DoC was performed, followed by measurements. (A lesson here is to have the best possible documentation, which will reduce the questions in the inspectors mind). Approximately 3% of the documents inspected were found to be flawed in some way.

Measurements were performed on 1,920 types of equipment (3% of the total sample). Up to 5 units were tested of each type for a grand total of 9,600 units tested in 1998. This represents the activity of 53 regional offices throughout Germany, which conduct the inspections and informal testing a sizable investment in time and money. True to form, the German laboratories are linked through a computer network that is used to compile statistics on non-conformities. Final testing for non-compliant products is carried out in a central Kolberg facility, which operates a fully-equipped testing facility.

Of the types of products tested, home appliance accounted for almost half (46%) of the total. TTE was sampled at a rate of 13% and ITE at the rate of 7%. Other categories include radio and TV

receivers (10%) and radio transmitters (6%). An average failure rate was 21% for the categories tested.

From these results, 250 cases were prosecuted with a total cost of 220,000 DM recovered and fines of 418,000 DM.

Mindful of the fact that the flow of products in Germany represents 30% of the EU trade, it is evident that the German authorities take inspection, and enforcement, seriously. ■

Deregulation

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The general aspects of the R&TTE directive are as follows:

For terminal equipment, so-called "Module A" applies. The essence of this process relies on the Manufacturer's declaration. For radio equipment where harmonized standards exist, so-called Module Aa will apply. This includes a manufacturer's declaration plus applicable radio testing. Where no harmonized standard exists, a TCF route is available, wherein a Notified Body is still required. For EMC and LVD, use the provisions of the Conformity Assessment procedures of those Directives. This does not harmonize the spectrum allocations in the EU and there are still licensing requirements. It is required that the manufacturer inform the user where the device can be used. It is hoped that this looser policy will force the harmonization of frequencies that has moved along at a proverbial snail's pace. ■

It's OUR MISSION

Washington Laboratories, Ltd. is dedicated to our clients. To meet their product development needs, we provide accurate, timely and comprehensive engineering and testing guidance with the utmost integrity. Through an impartial application of standards and test requirements and an on-going commitment to the highest quality service, we strive for total customer satisfaction.

take it to EXTREMES

Washington Labs Announces New Environmental Test Services

Environmental vibration test services are a new part of the Washington Labs line of services available to electronic and electric product manufacturers. Our new equipment includes the Ling Dynamic Systems Shaker System which can accommodate testing to the following specs: IEC68 Series, MIL-STD-810E and ANSI/IEEE.

The Shaker System allows for simulation of shipping, handling and normal use of equipment. Failure analysis and fault determination can be done, as well as design assistance to improve reliability and to meet anticipated vibration performance.

Vibration/Shock • Temperature Humidity • Transit/Drop

Standards/Profiles

MIL-STD-810E
MIL-PRF-28800
IEEE 743
47 CFR Part 68
BELLCORE GR-63-CORE
IEC 68
Your ESS Profile??



Our Environmental Test Facilities Profile:

Physical Size	48 x48 x48
Weight	700 lbs.
Voltage	0 - 600 V~
Frequency	DC: 440Hz
Power Consumption	AC: 75kVA
	DC: Call

(Accommodations are based upon your product-specific requirements.)

We've built this whole new vibration testing facility within the lab complex - come see it and watch us take it to extremes.

For more information contact Joe Vogel at 301/417-0220.

EN55024: Product Specific Immunity Standard for Information Technology Equipment Adopted

After years of circulating in standards committees, EN55024 has been published in the Official Journal. What does this mean? Products that fall under the scope of the standard will have to comply with the immunity requirements as part of satisfying the EMC Directive. If you indulge yourself in the details of the fine print in this delightful document, you'll find that many details are included in the standard. These include specific advice on the conditions of the equipment during testing and a glossary of definitions.

Aside from specific details, the test lineup looks to be about the same: ESD, EFTs, Radiated Immunity, Magnetic Field, Surge, and Voltage Dips. The discriminating tester will not be disappointed.

Several Normative Annexes (real page-turners) are included that address telecommunications equipment, data processing equipment, LANs, Point-of-Sales Terminals and copying equipment. And don't miss the DOW of July 1, 2001! ■

Meet the Staff

Norm Violette

To most in the world of EMC, Norm Violette is a familiar face and recognized expert on EMI/EMC/EMP and electrical/electronic systems engineering. Norm specializes in on-site consulting for major corporations around the world on emission and susceptibility design, testing and retrofitting of digital and analog electronic products.

His repertoire also includes commercial product design, fabrication, testing and retrofitting for compliance to FCC, VDE, CISPR, and VCCI specifications, plus military standard compliance: MIL-STD-461/462 testing and equipment/system design and retrofit. He also has expertise in the design of equipment and facility grounding systems for accommodating safety, EMI suppression and TEMPEST; as well as TEMPEST facility design and testing for compliance with NACSIM documents, including RED/BLACK engineering.

In 1989, Norm and his son, Mike, opened Washington Laboratories, Ltd. as a full service compliance testing facility. Now ten years later, Norm is the company's CEO and when he's not globetrotting in his consulting work, he is one of the lead instructors for our in-lab or customized educational seminars.

When the Statue of Liberty needed a lightning protection system designed,

Norm performed the analysis and design as part of the Statue's restoration project. This effort included analyzing the existing protection system, determining the impact of restoration efforts and recommending design options for the protection of the Statue's structure and internal equipment, such as the elevator, power distribution, lightning, communications, steel stairways and visitor accommodations.

Norm is an international seminar instructor and consultant. He instructs on such EMI/EMC topics as Grounding and Shielding; TEMPEST facilities design and operation, lightning and switching transient protection of power, computer and communications facilities, design and measurements for the Control of EMI and many others.

In 1987, along with Mike, Norm co-authored the "Electromagnetic Compatibility Handbook" published by Van Nostrand Reinhold of New York. He is also the author of numerous technical reports for specific EMI/EMC tasks for clients and articles.

Norm has a doctorate degree in Electrical Engineering from North Carolina State University and an MBA from Auburn University with an undergraduate BEE from Rensselaer Polytechnic University. He also has over 20 years of operational R&D, engineering and management work with the

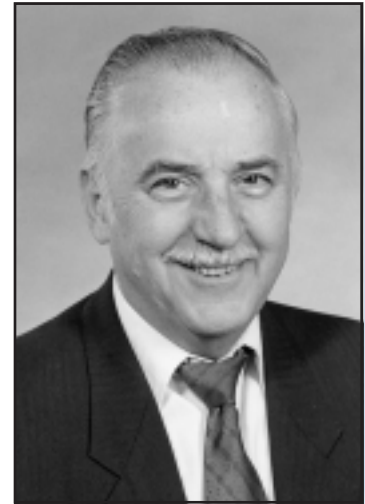
Call Us A CAB!

In accordance with formal notification from the European Union on March 27, 1999, Washington Labs' designation by NIST as a US Conformity Assessment Body (CAB) has been validated. We are now able to conduct tests during the "transition period" as described in the US/EC Mutual Recognition Agreement.

At the end of the "transition period" all successful US CABs will have to be confirmed by the EU before they can begin the "Operational Phases" under the MRA. NIST will continue to work with us during this transition to facilitate the process. ■

It's Metric Time!

It seems that the Europeans don't want to give us more time to start thinking metric. According to The Marley Organization Update of 9/98, all product markings and documentation for products bound for the EU must have metric units only after January 1, 2000. That's right, NO DUAL RATINGS - just metric. (This is the infamous "Metric Directive" that we've been hearing about!) ■



J.L. Norman Violette, Ph.D.
Chief Executive Officer
Washington Laboratories, Ltd.

United States Air Force and more than 20 years of on-staff corporate work with companies such as The General Electric Company and TRW.

Norm is an active member of the IEEE/EMC Society (board member), AFCEA, National Society of Professional Engineers and many other professional associations. Norm and his wife, Betty, live in McLean, Virginia.

The staff of Washington Labs salutes Norm on his outstanding career and continuous contributions to the company. ■

1999 Testing Workshop Series



August • November

The Washington Labs 1999 Testing Workshop Series will have its next installment on Aug. 13. Plan now to join us for this hands-on, short course loaded with demonstrations, discussions and handouts of practical tips engineers need to know. Subjects we'll cover include:

EMC Testing and Measurements

Designing to Avoid EMC Problems Down the Road

Watch our engineers demonstrate several testing techniques that uncover EMC flaws in electrical and electronic equipment—problems which can be avoided before the testing stage. You'll have the opportunity to "get specific" with the engineering staff on particular problems you may be encountering with current R&D designs.

GLOBAL COMPLIANCE WORKSHOP

Sept. 17 • Richmond, VA

"Designing for Export: CE Marking and Beyond, EMC, Product Safety and Telecommunications."

Join us for this **FREE** workshop for designers and product managers. Call Joann Dorsey at 301-417-0220 for more information.

Demystifying the LVD

Discover what the Low Voltage Directive means for your company's products. Whether you need assistance in testing and re-design, or in preparing your Declaration of Conformity to the appropriate harmonized product safety standard, we'll help you understand the requirements.

European and Domestic Testing and Regulations

What do you need, what don't you need? How to navigate the regulatory

system and all the ins and outs involved are provided in this practical, straightforward session.

Dates: August 13 • November 5

Location: On-site at the Washington Labs Test Facility

Tuition: FREE! Includes breakfast, lunch and course materials.

Space is limited!

*Call 301/417-0220 today
to register.*

Ten and Counting...

Washington Laboratories recently received its renewal as Certified Agent under the UL CAP program for the fifth year in a row. As 1999 marks the 10th anniversary of WL's full-time laboratory operation, it also marks the 10th year of working with UL to obtain product safety listings for our clients. Many successful investigations have been carried out with UL support under our witness-testing program. Flexible and responsive, Washington Labs provides testing and engineering to gain the fast product safety approvals on products as diverse as PCs, domestic appliances and satellite earth station hub equipment.

Coupled with Low Voltage Directive support, a one-test/one-stop solution is available for US and European CE Marking approval from Washington Labs. Call Patty Sullivan today at 301/417-0220 for a quote or more information on our full line of service offerings.



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